



Missouri Weekly Influenza Surveillance Report 2018-2019 Influenza Season¹

Week 16: April 14, 2019 – April 20, 2019

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Local².
- During Week 16, a total of 424 laboratory-positive³ influenza cases (366 influenza A and 58 influenza B) were reported. A season-to-date total of 76,127 laboratory-positive influenza cases have been reported in Missouri as of Week 16. The influenza type for reported season-to-date cases includes 92.8% influenza A, 6.4% influenza B and 0.8% untyped. No laboratory-positive case of influenza were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 16. The number of specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 16 (Figure 6).
- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.34% (Figure 5) and 1.5% (Figure 7) through ILINet and ESSENCE respectively.⁴ The ILI data from a small number of sites located in the Northwest Region of the state is currently unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.
- A season-to-date total of 81 influenza-associated deaths have been reported in Missouri as of Week 16.⁵ During Week 15, 56 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,591 P&I associated deaths in Missouri.⁶
- A season-to-date total of 21 influenza outbreaks and 12 influenza or ILI-associated school closures have been reported in Missouri as of Week 16.
- Influenza activity continued to decrease but remained elevated in the United States during Week 15. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

¹The 2018-2019 influenza season begins CDC Week 40 (week ending October 6, 2018) and ends CDC Week 39 (week ending September 28, 2019).

²Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

³Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

⁴Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

⁵All influenza-associated deaths became reportable in Missouri in 2016.

⁶The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided through interactive maps available at <http://bit.ly/MoFluMaps>. Click on the jurisdiction to view the influenza data specific to that jurisdiction.

- Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 16
- Reported Week-specific Rate per 100,000 Population, CDC Week 16
- Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date
- Reported Rate per 100,000 Population, Season-to-Date

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 16 (April 14, 2019 – April 20, 2019)*

Influenza Type	Week 14	Week 15	Week 16	2018-2019* Season-to-Date
Influenza A	2,410	1,045	366	70,651
Influenza B	191	115	58	4,895
Influenza Unknown Or Untyped	21	4	0	581
Total	2,622	1,164	424	76,127

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza season begins week ending October 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 16 (April 14, 2019 – April 20, 2019)*[‡]

Age Group	Week 16 Cases	Week 16 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
00-04	83	22.17	14,498	3,872.74
05-24	146	9.10	32,718	2,039.12
25-49	82	4.29	14,669	766.61
50-64	45	3.64	7,683	621.41
65+	68	7.12	6,559	686.86
Total	424	6.97	76,127	1,251.33

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza season begins week ending October 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 16 (April 14, 2019 – April 20, 2019)^{*,‡}

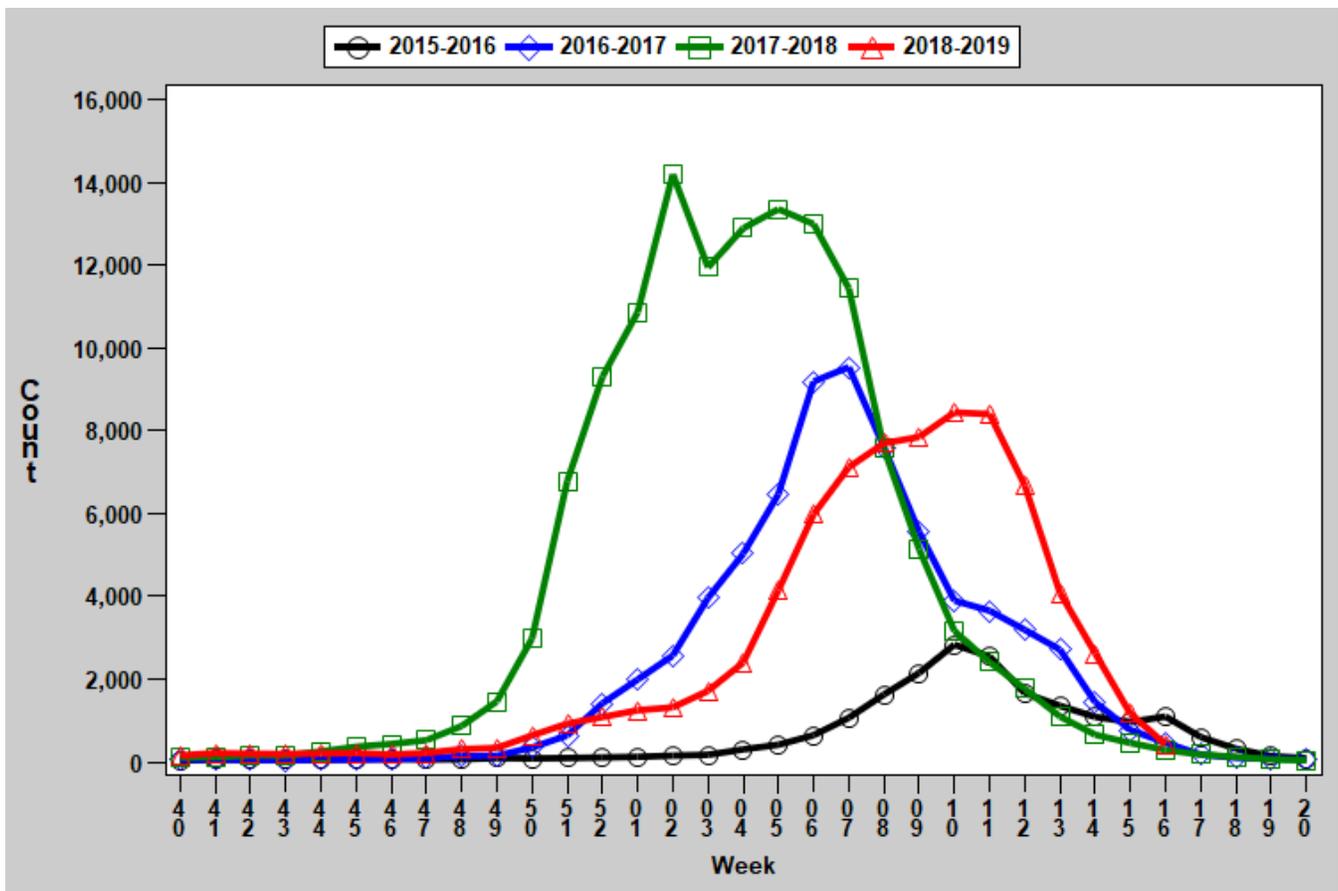
Region	Week 16 Cases	Week 16 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
Central	83	12.26	8,722	1,288.33
Eastern	120	5.30	23,070	1,018.02
Northwest	114	7.14	16,160	1,011.57
Southeast	69	14.63	11,169	2,367.82
Southwest	38	3.55	17,006	1,587.42
Total	424	6.97	76,127	1,251.33

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza season begins week ending October 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡]Incidence Rate per 100,000 population

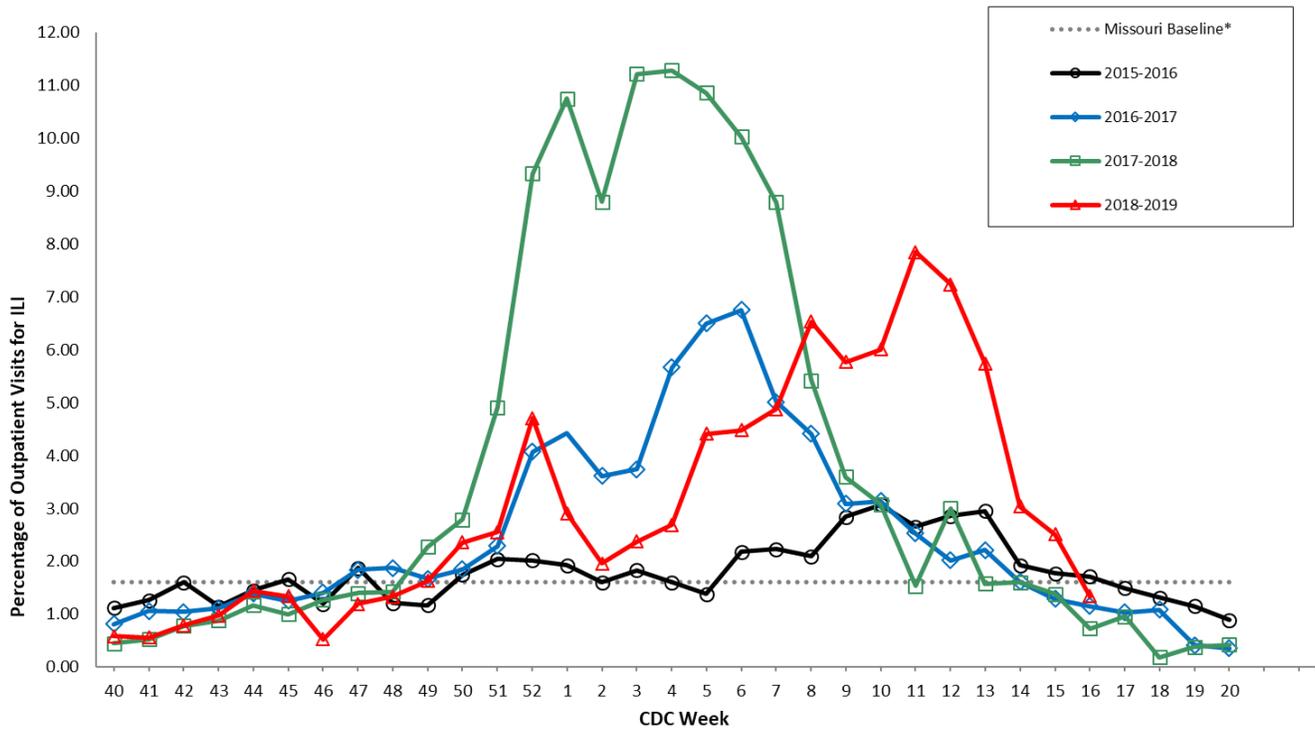
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2015-2019*



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).Data Source: Missouri Health Information Surveillance System (WebSurv).

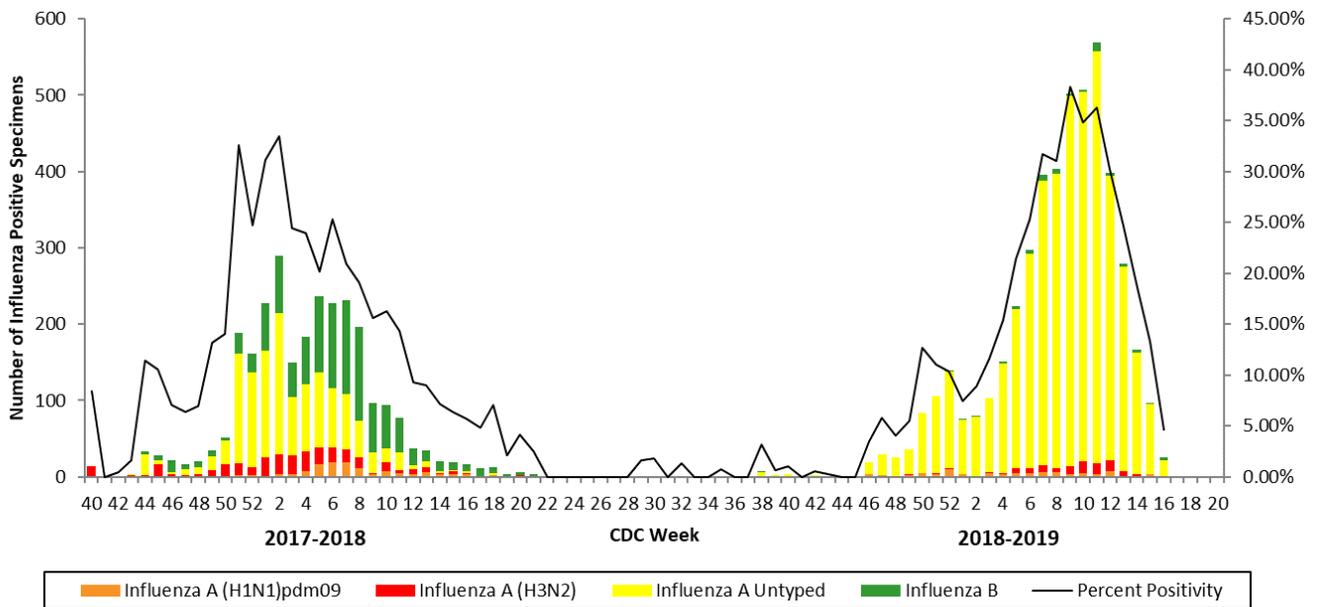
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2015-2019*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza. Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

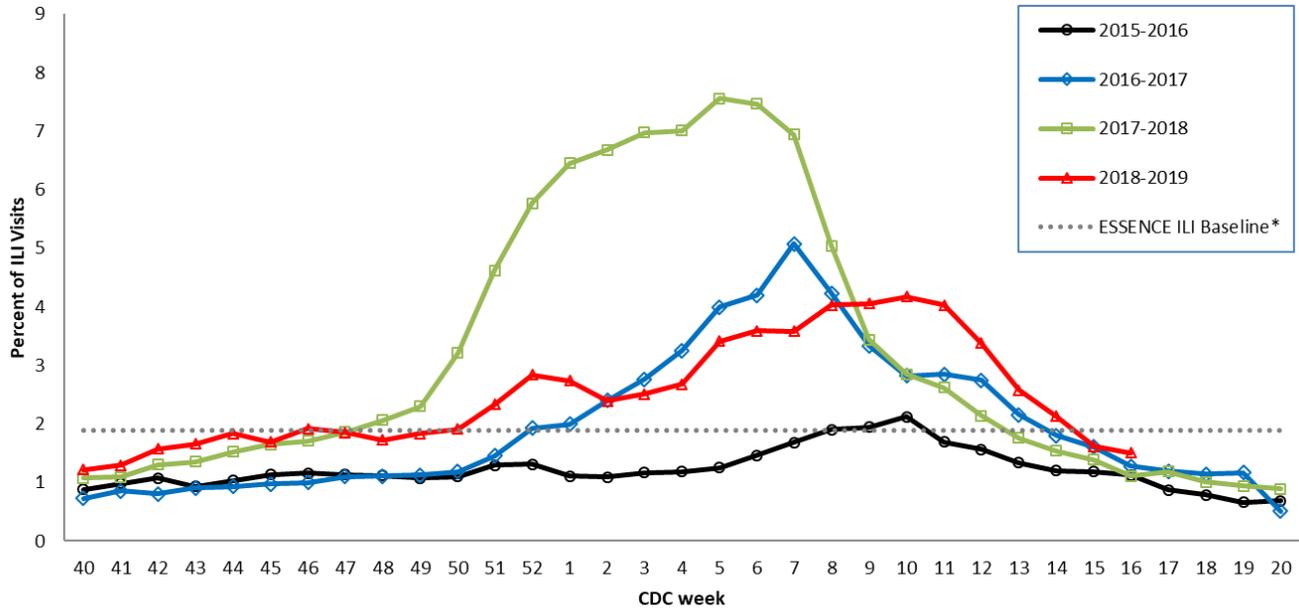
†2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC). 2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).

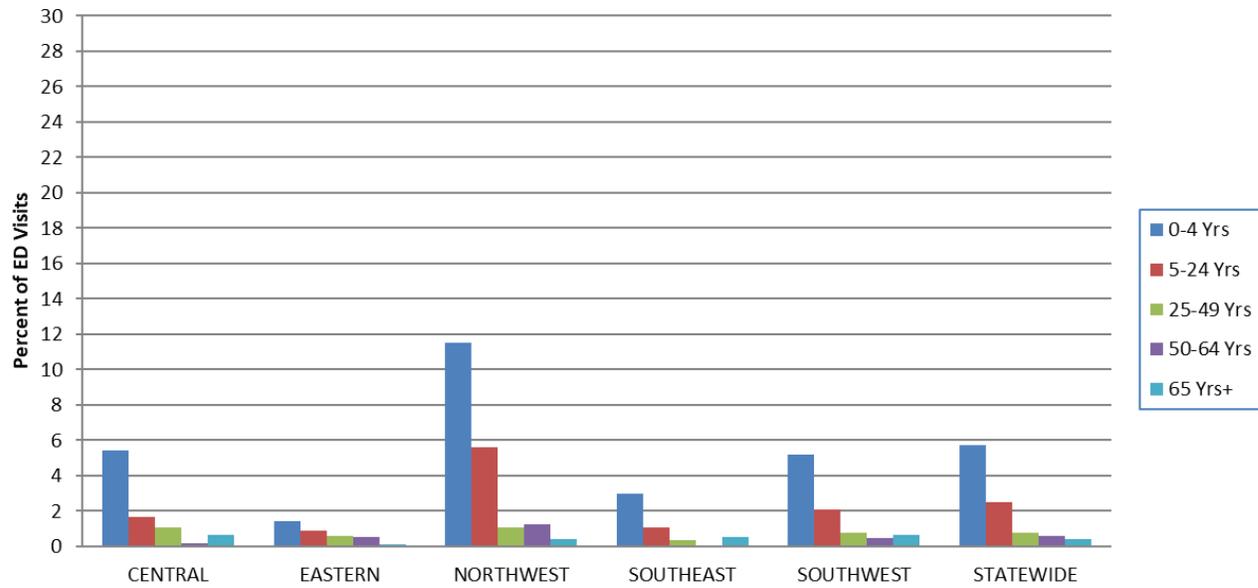
Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2015-2019 Influenza Seasons**



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2015-17) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations. Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.

†The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

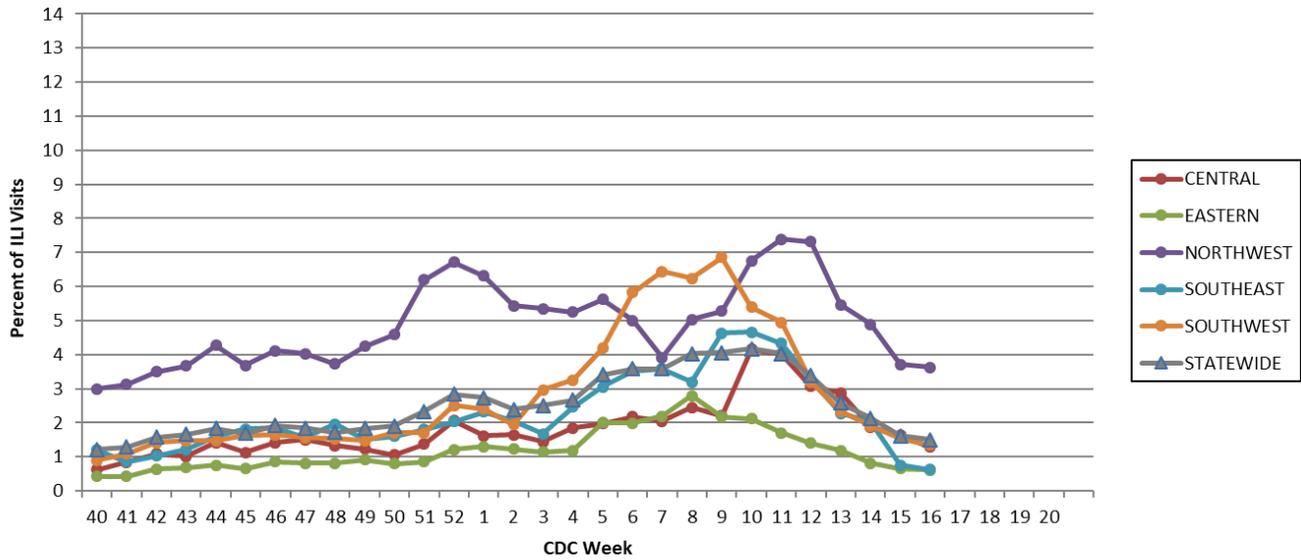
Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 16, 2019*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.

*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

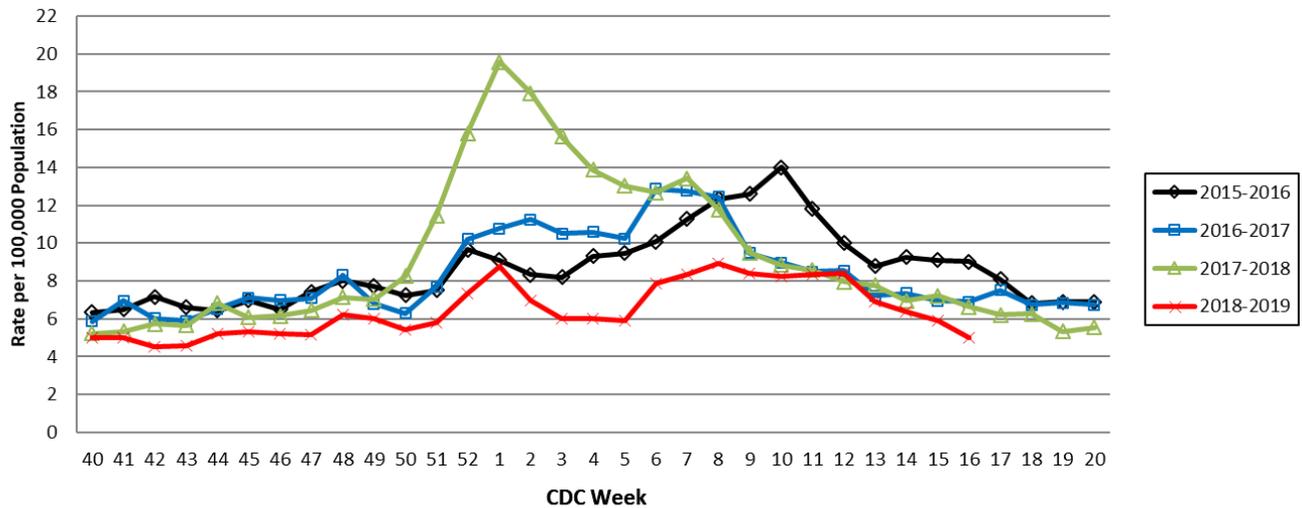
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2018-2019 Influenza Season*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.

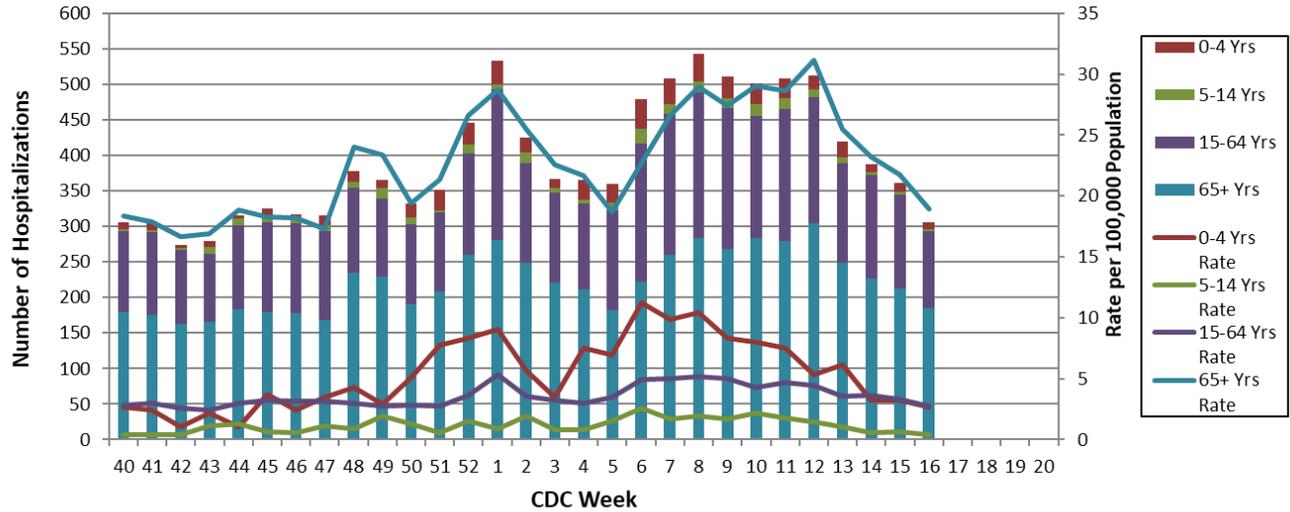
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2015-2019 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal. Population data from DHSS Population MICA 2016 (<https://webapp01.dhss.mo.gov/MOPHIMS/QueryBuilder?qbc=PNM&q=1&m=1>).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 16, 2018-2019 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
<https://www.cdc.gov/surveillance/nrevss/>

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/